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ABSTRACT

This publication attempts to summarize and paraphrase the views expressed by participants in a conference on decision-making in educational organizations. In particular, the report reviews research literature on decision-making under conditions of goal ambiguity and suggests directions and priorities for future research. The discussion is organized into three main sections that focus in turn on behavioral research on organizational decision-making, normative research on organizational decision-making, and suggested research priorities. (JG)

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DECISION MAKING

IN

EDUCATIONAL ORGANIZATIONS

Report of a Conference
supported by the
National Institute of Education

Cambridge, Massachusetts
May 8-10, 1975

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Conference on
Organizational Processes in Education:
Decision-making in Educational Organizations
Cambridge, Massachusetts
May 8-10, 1975

Graham T. Allison, Jr. (Chairman)
Kennedy School of Government
Harvard University
Cambridge, Massachusetts 02138

Charles J. Christenson
School of Business Administration
Harvard University
Boston, Massachusetts 02163

Larry Cuban
Superintendent
Arlington Public Schools
1426 North Quincy
Arlington, Virginia 22207

Theodore R. Marmor
School of Social Service Administration
University of Chicago
969 East 60th Street
Chicago, Illinois 60637

Ray Nystrand
Department of Educational Administration
The Ohio State University
29 West Woodruff
Columbus, Ohio 43210

Flora I. Ortiz
School of Education
University of California
Riverside, California 92506

John Steinbruner
Program for Science and International Affairs
Harvard University
Cambridge, Massachusetts 02138

Nadine Yates
Acton-Foxborough Regional High School
36 Charter Road
Acton, Massachusetts 01720

Also present at the meeting were Dr. James March, (School of Education, Stanford University, Stanford, California 94305), a member of the National Council of Educational Research, and members of the National Institute of Education staff. Thomas Garwin (Kennedy School of Government, Harvard University) served as rapporteur.

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I. Introduction

The education that students receive is critically influenced -- for both good and bad -- by organizational properties of the American educational system. The study of organizations has reached a point where research specifically directed at educational institutions and similar organizations could substantially aid educators in achieving their goals.

For instance, in order to achieve the goal of improving poor children's education (as embodied in ESEA Title I), it was necessary that (1) the U.S. Office of Education promulgate "basic criteria;" (2) state departments of education allocate money among school districts; (3) school districts allocate money among schools; (4) the schools then devote the money to particular programs, and (5) the departments or staffs running these programs behave in a way that improved poor students' education. For the policy to succeed, behavior of organizations at each of these five levels had to be appropriate to the policy objective. Some readers may object that many supporters of ESEA Title I legislation were content with the results, namely that large amounts of Title I money went for general purposes rather than for specifically improving the education of the poor. But the mental exercise of thinking about what would have been necessary to achieve the originally stated goal (improved education of the poor) suggests the value of knowledge about organizational decision-making. To achieve these goals, Title I would have

had to be written such that USOE would act in a way that would lead the state departments of education to behave in such a way that the school districts would behave in such a way that the schools would run programs that helped poor kids. Decision-makers at each level, from the proposer of legislation to the school principal, should have analyzed how alternative courses of action affect what those at other levels will do, and choose a course of action based on these predictions.

"Implementation Analysis," a technique of predicting how organizations will react to particular courses of action and of choosing accordingly is one important normative result to emerge from the work done over the last decade by a loosely-coupled community of political scientists, economists, sociologists and historians who have concentrated on studying how organizations make decisions. The practice of implementation analysis depends critically on understanding the organization whose behavior one would like to predict. Thus, there is a continuing need for broadening and deepening the behavioral theory of organizations, and specifically of educational institutions.

Educational institutions are examples of the larger class of "public" or "non-profit" institutions--usually contrasted with business firms or "profit-making" enterprises. To a greater or lesser degree, these public institutions share with education three characteristics which set them apart from business as objects for organizational analysis. In education, objectives, or what we value about education, are highly ambiguous; the links between "inputs" (class size, teacher effort, etc.) and "outputs" (reading scores, positive feelings toward learning, good citizenship, etc.) are very uncertain; and authority within the organization is highly diffuse. If organizational

theory is to be of maximum use to educators, research must be done on how the standard behavioral theory of organizations must be adjusted with respect to these aspects of ambiguity, uncertainty and diffuseness. The procedure of developing a broad empirical base of knowledge of organizational behavior in a subject area and using it to make ad hoc recommendations about organizational structure is currently being used with some success by the Commission on the Organization of the Government for the Conduct of Foreign Policy, as well as by management consultants in the private sector.

It is likely that prescriptions for educational institutions will differ from those for organizations whose objectives and technologies are relatively clear. For example, under ambiguity and uncertainty, decentralization and organizational "inertia," although they make implementation difficult, may be beneficial for other reasons. Decentralization may allow different policies to be tried at the same time, with the successful ones being selected for more general use. An organization which had no "inertia" would at any time only work toward those goals that were consciously articulated. This would be disastrous in those policy areas where objectives cannot be concretely specified. Stability in organizational behavior allows the possibility that sequential attention to goals will be successful because the behavior will be cumulative to some extent. In other words, stability presents the possibility of organizational learning. These observations suggest that where ambiguity of objectives and uncertainty of production functions make it very difficult to integrate behavioral predictions to produce rational choices (as Implementation Analysis requires), it would be very useful to have a body of normative theory which suggested techniques for clarifying goals and technologies, and strategies for managing in the absence of traditional

cost-benefit criteria.

For both the behavioral and normative areas of research, the conference attempted to describe the state of the art, to outline research directions, and to present possible programs for work in these directions. The conference concluded that the study of organizations has reached a point where a substantial empirical research effort would be important both in adding to the store of information about organizational decision-making under ambiguity and in refining behavioral and normative theories of organizations.

II. Behavioral Research on Organizational Decision-making Under Ambiguity (with special reference to education)

A. The State of the Art.

One can think of the behavioral theory of organizations as having two main aspects. One aspect is the theory of how individual decisions are made (either by people or by organizations considered as anthropomorphic units). The other aspect is an account of the relationship between the behavior of individuals and the behavior of the organization they belong to.

In the most widespread theory of decision, the "analytic paradigm," individuals (and, by assumption, organizations) maintain well-defined preferences for different states of the world (a hierarchy of ends), and they evaluate all alternative options by use of this preference ordering (they optimally match means to ends). Values precede purposes, and purposes precede actions. The major drawback to this analytic paradigm, as Herbert Simon, Charles Lindblom, and others have argued, is that its assumptions seem to require very extensive calculations on the part of the decision-maker, calculations which can readily be shown to be impossibly burdensome. Herbert Simon attempted

to deal with this problem by arguing that the decision process was characterized by "bounded rationality," meaning that the exploration of alternatives is only begun when outcomes become unsatisfactory, and that the search is ended when a satisfactory, rather than an optimal, solution is found. Using this theory Richard Cyert and James March developed The Behavioral Theory of the Firm for explaining and predicting the behavior of business firms. Using this theory they were able to simulate on a computer the pricing choices of a department store and to make good predictions. John P. Crecine has achieved similar results in simulating governmental budgeting.

Charles Lindblom has made a related argument in a broader political context. He suggests that most decisions proceed via small, marginal changes in established policies or actions as a means of coping with the problems of uncertainty and value conflict. Decisions are reached in ignorance of their direct effects and of the reactions of other decision-makers whose interests are involved. If the effects turn out to be acceptable, the course is pursued with further marginal decisions; if not, then something new is tried. This, he argues, is the way a political collective gropes its way forward; a process which he labels "partisan mutual adjustment." In the general literature this process has become known as "incrementalism," reflecting the slow evolutionary changes that are often seen as the signature of this kind of decision-making.

The organizational analysis suggested by Cyert and March has been developed by Graham Allison as an approach to governmental decision-making, including crisis decisions. Allison demonstrates that sharp differences in explanations and predictions result when this approach is adopted as a framework, rather than some variant of the analytic paradigm. This

perspective, which he labels the Organizational Process Model (Model II), emphasizes the effects of routine procedures in organizations and seems to explain thereby many events which are highly anomalous when viewed from an analytic perspective.

According to Allison's Organizational Process Model, what are termed choices and actions under the analytic paradigm are in fact outputs of organizations functioning according to standard patterns of behavior. To explain a particular occurrence, one identifies the relevant organizational context and displays the pattern of procedures and conventions out of which the action emerged. The basic unit of analysis is the organization, and the focal concepts include routine behavior, standard operating procedures, biased information, and parochial perspectives. Model II explanations are predictions typically focus on the pattern of statements, directives, and actions of relevant organizational units. A central assumption is that organizations change slowly, that behavior at time t+1 will closely resemble that at time t. Predictions are thus based on the structure, programs, and past behavior of the relevant organizational units.

In his Cybernetic Theory of Decision, John Steinbruner has grouped together the approaches to decision-making theory that reject the analytic paradigm and argues that they derive from a very general "cybernetic paradigm." Actions are thought of as fundamentally the result of processes, not calculations, much as a thermostat keeps a room at a set temperature without any calculation at all. In particular, by combining the simple cybernetic paradigm with well-known facts about human cognitive processes, Steinbruner produces a theory which is particularly useful for understanding decisions made under complexity or in a changing environment. Steinbruner's formulation is able to explain

the non-incremental changes in policy that can occur in such cases.

Using specific and generally accepted information about cognitive processes, Steinbruner has fleshed out the simple cybernetic paradigm for application to human decision-making. This information can be described by five basic cognitive principles: inferential memory (a remembrance is largely the product of current mental processes, not simply a fixed image of the past), consistency, (the mind operates in such a way as to keep internal belief systems consistent, affecting both memory and the processing of new information), reality (external reality does powerfully influence the internal beliefs of healthy minds), and the "economy" principles of simplicity (a high degree of organization of perceptions and beliefs will be maintained, and this organization will be as simple as possible within the constraints imposed by the other principles) and stability (the extensive hierarchical structure of a system of beliefs tends to prevent isolated changes in individual belief elements, while a major restructuring would impose severe burdens on the mind's information-processing capacity). Steinbruner argues that, as a result of these five principles, decision-makers tend to subjectively resolve ambiguity and uncertainty by resorting to sources of belief strength independent of evidence from the empirical world and by altering internal beliefs so as to deny the existence of value-tradeoffs, and that they tend to restrict information utilized to a relatively limited set of salient variables.

It is common practice to use such theories of individual decision to explain the behavior of organizations as units as well as the behavior of individuals. However, it is a well-known theorem in modern economics that the preferences of individuals cannot be aggregated into a single consistent preference ordering. Thus the process by which a collective unit comes to

a decision can affect the decision itself.

Economists such as Thomas Schelling and Anthony Downs have analyzed such bargaining situations under strict analytic assumptions, and economists such as George Stigler, Gary Becker, and Richard Posner have attempted to think about the effects of economic incentives in particular institutional settings. Graham Allison's Bureaucratic Politics Model (Model III) at first seems to be such a purely analytic bargaining model, but his notions of parochial perceptions, deadlines, faces of issues, action channels and rules of the game seem to be cybernetic elements mixed in with the more analytic concepts of goals and interests, power, and stakes and stands. If politics operated in a purely analytic fashion, then it would not much matter how an issue is presented; all actors would know what what was at stake and would act accordingly. This subtlety in Allison's Model III is often missed at first. Murray Edelman's The Symbolic Uses of Politics makes a similar point.

Allison's Model III considers policy to consist of the results of a series of overlapping hierarchically arranged bargaining games. Two descriptive emphases are involved: that governments are made up of disparate, fragmented organizations headed by leaders with unequal resources, and that such leaders, in the course of policy making, engage in bargaining. These players, operating with different information, different perspectives, and different priorities, struggle for preferred outcomes with the resources at their disposal. Explanations and predictions in this bureaucratic politics model proceed from descriptions of the positions, stakes, interests, and resources of the principal players, and concentrate on the understandings and misunderstandings which determine the result of the bargaining game. The understanding of the cumulative process requires detailed disaggregation of the

policy-making organization.

How these theories need to be adjusted to include the specific impact of ambiguity has not been much studied. However, foreign and military policy share much of the ambiguity about objectives and the uncertainty about the effectiveness of means that characterize education. Thus Morton Halperin's Bureaucratic Politics and Foreign Policy and John Steinbruner's case study of the proposed Multilateral Force should be useful to those who would understand educational decision-making, as should Marc Roberts' and Paul Joscow's work on public utilities, Burton Weisbrod's investigations of the behavior of public interest law firms and other non-profit organizations, and Theodore Marmor's study of health care. In general, one would expect that ambiguity would increase the importance of symbols and other cybernetic elements in politics relative to analytic elements. Similarly, the process by which shared beliefs come to be formed becomes of extreme importance where ambiguity makes a great number of inconsistent beliefs potentially equally compelling.

Michael Cohen and James March's Leadership and Ambiguity treats this problem at some length. They note that ambiguity causes the boundaries between problems to be ill-defined. A discussion of, say, office space, can easily become an argument over whether education in the sciences or the humanities is more important in today's society. Since such questions are fundamentally ambiguous and thus essentially unanswerable, the question is likely to be dropped until a deadline forces its resolution in one way or another. "Generally accepted" planning factors end up having much more force than they deserve because they are focal points for agreement in a sea of ambiguity.

While a number of scholars have studied educational institutions from the

organizational perspective, only a few beside Cohen and March have structured their research in terms of an explicit organizational model focused on decision-making under ambiguity. A number of studies of educational organizations are, however, suggestive of the ripeness of this field for further organizational studies. Examples of many important works that could be cited are:

Re: Higher Education

Edward Gross and Paul V. Grambsch, University Goals and Academic Power. Washington, D.C.: American Council on Education, 1968.

Peter M. Blau, The Organization of Academic Work. New York: John Wiley and Sons, 1973.

Theodore Caplow and Reece J. McGee, The Academic Market Place. New York: Doubleday, 1958.

Jeffrey Pfeffer and Gerald R. Salancik, "Organizational Decision Making as a Political Process: The Case of a University Budget," Administrative Science Quarterly (June 1974).

J. Victor Baldridge, ed. Academic Governance: Research on Institutional Politics and Decision-Making. Berkeley: McClutchan Publishing Co., 1971.

J. Victor Baldridge, Power and Conflict in the University. New York: John Wiley and Sons, 1971.

Re: Elementary and Secondary Schools

Louis M. Smith and Pat M. Keith, Anatomy of an Educational Innovation. New York: John M. Wiley and Sons, 1971.

Seymour B. Sarason, The Culture of the School and the Problem of Change. Boston: Allyn and Bacon, 1971.

David Rogers, 110 Livingston Street. New York: Random House, 1968.

Stephen K. Bailey and Edith K. Mosher, ESEA: The Office of Educational Administers a Law. Syracuse, N.Y.: Syracuse University Press, 1968.

Roald F. Campbell and Tim Mazzoni (editors), State Policy Making for the Public School: A Comparative Analysis. Columbus, Ohio: The Ohio State University, 1974.

Neal Gross, S. Ward Mason and W. Alexander McEachern, Explorations in Role Analysis. New York: John Wiley and Sons, 1958.

Jerome T. Murphy, Grease the Squeaky Wheel.

Jacob W. Getzels, et al., Educational Administration as a Social Process. New York: Harper & Row, 1968.

Neal Gross, et al., Implementation of Innovation.

Don Lortie (Forthcoming), The Teaching World.

B. Research Directions

The directions that follow vary somewhat in immediate researchability. The Conference's suggestions for research organization are presented in Section IV. Properly conducted, research on all of the following topics would produce useful results.

1. Basic Theoretical Work. As hinted in the discussion above, the presence of extreme ambiguity differentiates educational organizations (and many other "public" activities) from the more often studied business firm. It would be useful to study how the behavioral theory of organizations needs to be adapted to account for ambiguity. What are standard operating procedures (SOPs) like under ambiguity? Are they more rigid or less? A better understanding is needed of the symbolic aspects of educational politics, such as the fact that department chairmen seem to have additional authority even in universities where the chairmanship rotates. A more general example of a topic in the role of shared beliefs would be a study of how educators come to believe that a particular technique is either effective or not.

Another set of questions is prompted directly by cybernetic theory. What is the nature of the search process in educational organizations? What do the feedback loops look like? How does the system cope with information

that is inconsistent with a prior belief structure?

A third cluster of topics involves understanding the concrete causes of certain aspects of the behavioral description. What gives a SOP its power? How do people learn and react to SOPs? What factors determine whether an organization will adopt an innovation developed elsewhere or whether it will itself innovate? How does an "organizational essence," the set of operations or objectives that defines the organization for its members and which holds their allegiance, come into existence? Can it be changed? How is the attention of the organization allocated? These questions, and others like them, can only be answered by theoretically-informed empirical research.

2. Empirical Studies of Causal Relationships Between Organizational Features and Outputs. How do deadlines influence outputs? What is the impact of organizational overload? How do professional career paths affect the education of students? Do high school administrators have different views of themselves than do college presidents, and what difference does this make? This set of questions, more focused than those of the first research direction, could be asked in relative ignorance of organizational theory, although not combining the research on the two directions might waste research effort.

3. Institutional Studies -- Organizational Analyses of Major Educational Institutions. Cohen and March's study of college presidents is an important example in this field. Paul Peterson and T. R. Williams are currently engaged in a study of Chicago School Boards. Outside education, Martha Derthick is doing an intensive study of the Social Security Administration.

Similarly detailed studies of other educational institutions would provide useful information about how educational organizations actually behave

and would alleviate the danger that a concentration on theory might lead to omitting important aspects of the educational system. To help prevent such studies from being dull or trivial, they should focus on how the nature and structure of the organization affects some group of people in the organizations. For example, one might study elementary schools from the perspective of the teacher, suggesting what aspects of their job they should emphasize and describing strategies that may make them more effective.

4. Organizational change. How do organizations learn? How do they adopt innovations? What aspects of organizations impede or favor change? How does natural selection operate? (What is the unit of evolution--the individual, the SOP, the department, or the organization?) Do institutions under stress try more innovations? What kind of innovations do they try? How does the need for change come to be recognized? (Are cognitive processes important here? If so, whose?) Do educational organizations sometimes change when they shouldn't? These are questions of real theoretical interest which are important to any prescription for how education institutions should be changed.

5. How do organizations react to attempts at leadership? Studies of how educational institutions have reacted to past management reforms such as evaluation standards or basing department budgets on course enrollments should be useful both in understanding the behavior of subunits and in advising future managers. In addition to studying how organizations have reacted to the various incentive effects of performance measuring systems, it would be valuable to understand other aspects of institutional responses to leadership. Under ambiguity, does getting people to think about objectives improve their performance? What have been the prerequisites for successful sequential attention to goals? Answering questions such as these would do much to help us evaluate how much good management tools can do.

III. Normative Research on Organizational Decision-making Under Ambiguity (with special reference to education)

A. State of the Art

The Normative theory of organizations is at present much less developed than the behavioral theory. We have already mentioned "implementation analysis" as one of the most interesting and useful normative techniques to emerge from the study of organizations. Cohen and March ventured to make some specific recommendations for college presidents. Charles Lindblom argued the virtues of an incremental decision style. Christopher Alexander's Notes on the Synthesis of Form discusses under what circumstances a non-conscious problem-solving strategy is likely to be successful. Still, the theory of how to manage without clear objectives is very primitive.

One strategy for coping with ambiguity that has been recognized at least since FDR's Presidency is multiple advocacy. (Richard E. Neustadt and Alexander George are more recent advocates.) The idea is that presenting the decision-maker with a variety of perspectives will make certain that he recognizes the ambiguity in values and the uncertainty in predictions of success, so that he has a good chance of making a good decision. Essentially, multiple advocacy is a prescription for clarifying objectives and enforcing the recognition of uncertainty. John Steinbruner has suggested that besides using multiple advocacy to mitigate the impact of parochial perspectives, attention should be paid to maintaining a balance between advisors who are by personality warners-of-danger and those who are disposed to give confidence to their superior. Finally, many of the best case studies, while not generating explicit normative theory, do make arguments about what went wrong and

thus how the actors might have done better. Richard E. Neustadt's Alliance Politics is perhaps the best example of this genre. Further research in each of these areas would be useful.

B. Research Directions

There are five interrelated directions for normative research that the Conference thought could produce useful results. In rough decreasing order of present level of development, these are implementation analysis, advice on how to achieve particular organizational outcomes, techniques for clarifing objectives and technologies, methods for management with unclear objectives, and prescriptions for matching organizational structures to their tasks.

1. Implementation Analysis. The standard practice of analysis separates questions of desirability from questions of feasibility. The prevailing practice in cost-benefit analysis tends to neglect the organizational processes that in fact generate (or thwart) the costs and benefits estimated to follow from an alternative. At Harvard and elsewhere, a beginning has been made in developing implementation analysis as a technique for supplementing the standard practice of PPBS, cost-benefit analysis and the like. Research priorities are two: (1) to develop a replicable methodology, beginning with a checklist or recipe, by which analysts can address and build consideration or implementation abstracts into the comparison of alternatives presented to decision-makers; and (2) to develop guidelines by which analysts can design plans for decision and actions that increase the prospects of successful implementation. The time is ripe for a project demonstrating the use of implementation analysis in the educational policy area.

2. Advice for Achieving Particular Outcomes. It should be possible to extract from the behavioral theory some general advice on how to achieve

objectives once they are identified. Educational institutions, to an extent which is unique (prisons, and perhaps to a lesser extent health care, are the closest analogs), exist only to affect the lives of members of the organizations (students). While the Armed Services restrict their members more, this control is in theory merely instrumental to the goals of military effectiveness and national defense. In other policy areas, organizational insights are helpful in achieving particular organizational outputs which must themselves be evaluated in terms of the outcome they produce. In education, these same organizational insights should lead directly to advice on how to achieve particular outcomes.

The immediate application of these insights to education is hindered at present by the relative lack of knowledge about the specific adjustments in the behavioral theory needed to account for the impact of ambiguity. Still, research would be useful even now on advice on such topics as how to guide the development of shared beliefs in productive directions, how to ensure that an issue is decided in a favorable context, how to get an organization to focus on a particular question, how to insure that the powerful role of symbols under ambiguity is not destructive, and, more generally, how to structure decision processes and alternatives so that they fit the cognitive structures of participants in such a way that an appropriate decision is made.

Such advice would be useful to participants at any level of the educational hierarchy who are interested in improving educational outcomes.

3. Techniques for Clarifying Objectives and Technologies. If the ambiguity about objectives and the uncertainty about production functions could be reduced, then more standard management tools would become more useful. While many of the possibilities for reducing ambiguity (such as applied

philosophical analysis of values) or minimizing uncertainty (controlled experimentation) are beyond the topic of this conference, there were some organizational techniques that were suggested as possibilities that should be investigated further.

First, the promulgation of fairly arbitrary measures of goals might begin an iterative process of adjustment that leads to a set of valid measurements which results in improved performance without anyone's knowing beforehand exactly what objectives were to be furthered or how they were to be advanced. After the performance improvement is achieved, the standards would be interpreted as having advanced some goal that seems related to the standard that was developed. The second possibility shares an element of indirection with the first. Here, policy innovations would be encouraged and, again, when an improvement was noticed, it might lead to the realization of the "true" value of a previously undervalued objective.

4. Leadership Under Ambiguity. The leadership role is affected by ambiguity to a larger extent than any other role in the organization. Following the lead of Cohen and March's book, Conference participants thought of several examples of strategies for managing in the absense of clear objectives which exemplify the kind of topic that could be interesting to organizational theorists and useful to educators.

It may well be that, under ambiguity, it is best to evaluate managers rather than projects. If it is difficult to maintain appropriate concrete objectives for a program, it may be best to pick the few managers who have the best sense of how to achieve goals and give them relatively free reign, rather than trying to pick a few good projects. Under ambiguity it is hard to define projects clearly enough to prevent them from being substantially

altered during implementation. Much further thought is needed on how such evaluations of managers would be done, how they would affect the behavior of educational managers, and whether they could be made consistent with educational personnel systems, to mention only a few aspects of this complex problem.

Another approach might be to develop a series of cases, perhaps taking Neustadt's Alliance Politics as a model, which could be given to educators as an informal course in organizational elements of the educational system.

Other possibilities were less well developed. The use of traditional wisdom and the study of history may often be more useful than analysis. It would be helpful to know when this is true. Another strategy for managing in the absence of objectives is to use the Hawthorne effect. It may be that making people feel that their jobs are exciting or experimental will improve performance. What are the dangers of this? (Clearly an emphasis on history and traditional wisdom and an emphasis on experiment are contradictory!) Finally, one may try to encourage innovation in both teaching and management by ensuring that success is rewarded more than failure is punished. Clearly these prescriptions, and others, need a great deal of study before they can be suggested with any confidence.

5. Organizational Design This is perhaps the most speculative direction of all. Essentially, the problem is how to create organizational structures that interact with their environment to good effect. It might be possible to generate a formal theory of organizational design that would prescribe, among other things, the amount of coordination that would best balance flexibility against coherence and the degree of hierarchial structure that would provide an adequate "intelligence" in the present environment without

sacrificing too much adaptability as the environment changed. A formal analysis of the "decomposability" of the environment into independent subsystems (which could be sub-optimized without fear of missing the global optimum) might suggest an optimal structure for a particular institution. Similarly, some measure of the rate of change in the environment might be useful in trying to adjust the speed of feed-back loops in the organization. If the organization relies on natural selection, then a measure of the speed of change in the environment should help determine the requisite variety in its programs. For the present, it is more likely that this kind of cybernetic organizational design is more helpful as a way of thinking than for any specific recommendations. It is, however, a powerful way of thinking, and if it were ever developed to give specific recommendations the results would be dramatic.

IV. Suggested Research Priorities

The development, demonstration, and dissemination of implementation analysis in education seems to us the ripest research area.

After that, it at first seemed difficult to see how the assorted research directions would hang together. Some could, and should, be pursued separately. But after lengthy discussion, participants in the conference were struck by the extent to which most of the research topics point in a common direction. Whether one is primarily concerned with implementing promising prescriptions in large organized systems, advancing theory in the area of organizational decision-making, developing normative theory, or simply better understanding why large bureaucracies do what they do, it seems clear that the first order of business is the development of a substantial base of detailed empirical

research on the operation of educational organizations. A scattershot approach will not do, however. If the knowledge is to be cumulative, the empirical research must be coordinated with theoretical concerns.

A primary method for developing such a cumulative empirical base would be case analyses: carefully focussed case histories informed by a theoretical or conceptual framework and some specific theoretical questions. What is needed, then, is not simply a large number of disparate case analyses, but a substantial program organized around a common set of theoretical concerns aimed not only at developing the empirical base but also at advancing theory.

There does not now exist a research capability appropriate for this problem. The intellectual division of labor in academia makes the organization of such a research program difficult. The blend of research interests and capabilities implied by the above diagnosis would be difficult to achieve in the best of circumstances, and the number of individuals who have the requisite talent and share the above premises is small.

The flavor of the research activities proposed here is very much in the tradition of Cyert and March's Behavioral Theory of the Firm, but with an important difference. The research should have a stronger operational bite. The methods used in that research are broadly applicable to the kind proposed here--case studies, detailed interviews, data analysis, computer simulation (both to test the implications of theory and to describe ongoing processes). It is worth noting, however, that more than a decade has passed since the Cyert and March contribution and that while some theoretical progress has been made since then, an important reason for the slow rate of progress in theory development is the lack of sufficient empirical data on organizational decision-making under ambiguity.

There is an opportunity, therefore, for N.I.E. to sponsor a substantial program aimed at both theoretical advance and at developing a body of empirical data on large organizational decision-making and to have education be the focus of that effort. While many of the members of the loosely-coupled community of scholars who could contribute to such an effort have not been primarily interested in educational organizations, the attraction of building a common empirical base and advancing theory at the same time might make it possible for such a program to enlist their energy.

The conference felt that such a program should focus on an issue of substantive policy in education, both to give the research a sharper focus--thus making it more likely that the research will produce theoretical advances that will eventually be useful, and to produce in the shorter run findings that will be directly useful to educational policy makers. The most promising and important candidate for this substantive policy problem is the adaptation of educational institutions over the next decade to declines in enrollments and changes in resources. The educators at the conference seemed agreed that this is the most important problem facing education over the next decade, and a problem where organizational processes will be critical. Unless educational organizations adapt to these changes more intelligently than have most organizations faced with similar problems, the quality of education of students in the classroom is likely to suffer badly. For example, the few studies available of the reaction of military services to sharp cuts in budget and personnel find that the organizations typically cut muscle before fat, thin the number of men in each division rather than cut divisions (thus preserving headquarters, officer's slots and a base for expansion), buy limited numbers of advanced weapons but not amunition or spare parts, reduce

readiness, try to preserve the working environment of the core professionals, and above all preserve the "perks," like the PX. A substantial, but detailed program of study would be required to predict how educational institutions will react, and to offer suggestions about how leadership should be exercised in this environment. This program would include case analyses of educational institutions and similar organizations under such conditions, and of leadership in institutions under stress, and would include most of the topics listed above.

Management of such a research program would not be easy. It would be difficult to assemble a critical mass of individuals at one location, since there are attractive options available to the most competent people in the field. This scarcity suggests a research program led by a mix of full- and part-time senior participants with the part-timers maintaining their existing university relationships, working on research group projects at their home base and spending summers and shorter periods during the university year "on location" with the full-time participants. The key to the success of the endeavor would be the principal research director. The research program envisaged here would not be cheap. Conference participants mentioned the Poverty Institute at the University of Wisconsin as a model. Though no budget was proposed, participants were thinking in terms of a commitment of about $1 million a year for five years.

V. Conclusion

The study of organizations has advanced to the point where it could be very useful to educators. In addition, the time when new departures in education could be simply added to existing programs is probably past.

Thus innovative teachers and managers will probably meet more organizational resistance than in the past. Further, educational institutions, as organizations under ambiguity, present problems of real theoretical interest to students of organizations. In general then, the times seem auspicious for the kind of research program suggested above.

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